



Independent Assessment of Headquarters Line Management Oversight of Emergency Management Programs

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Office of Enterprise Assessments
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Acronyms

CDNS	Chief of Defense Nuclear Safety
CPEP	Corporate Performance Evaluation Process
CRAD	Criteria and Review Approach Document
DNFSB	Defense Nuclear Facilities Safety Board
DOE	U.S. Department of Energy
EA	Office of Enterprise Assessments
EM	Office of Environmental Management
EM-3	Office of Field Operations
EM-3.1	Office of Safety, Security, and Quality Assurance
EM-3.114	Office of Safeguards, Security and Emergency Preparedness
EMAC	Emergency Management Advisory Committee
EMRAP	Emergency Management Readiness Assurance Program
EPZ	Emergency Planning Zone
ERAP	Emergency Readiness Assurance Plan
FE	Field Element
FY	Fiscal Year
M&O	Management and Operating
NA-40	Office of Emergency Operations
NA-50	NNSA Office of Safety, Infrastructure and Operations
NNSA	National Nuclear Security Administration
OFI	Opportunity for Improvement
PSO	Program Secretarial Office
SC	Office of Science
SC-HQ	Office of Science - Office of Safety and Security
SD	Supplemental Directive
SLO	Site Liaison Officer

INDEPENDENT ASSESSMENT OF HEADQUARTERS LINE MANAGEMENT OVERSIGHT OF EMERGENCY MANAGEMENT PROGRAMS

Executive Summary

The U.S. Department of Energy (DOE) Office of Enterprise Assessments (EA) independently assessed Headquarters line management's emergency management oversight. Specifically, this assessment evaluated the effectiveness of the Office of Environmental Management (EM), the National Nuclear Security Administration (NNSA), and the Office of Science (SC) in implementing the oversight requirements of DOE Order 151.1D, *Comprehensive Emergency Management System*, and DOE Order 226.1B, *Implementation of Department of Energy Oversight Policy*, and the implementation of those processes by selected field elements (FEs) from February to June 2022. The assessment also evaluated the effectiveness of certain oversight roles (e.g., readiness assurance) implemented by the NNSA Office of Emergency Operations (NA-40) across DOE as the Office of Primary Interest for emergency management.

EA identified the following strengths:

- Although DOE Order 151.1D does not specify the frequency for programmatic assessments, EM verified that all surveyed FEs conduct annual assessments of contractor emergency management programs. Moreover, the Portsmouth/Paducah Project Office and Richland Operations Office conduct annual assessments of contractor emergency programs using a formal CRAD. **(Best Practice)**
- EM's Office of Safeguards, Security and Emergency Preparedness (EM-3.114) has established effective oversight policies and procedures, conducts formal assessments of FEs, and shares lessons learned to improve emergency management performance.
- NA-40 has a comprehensive performance indicators tool that requires its FEs and management and operating contractors to evaluate specific aspects of their emergency management programs and submit metric data three times a year. The consistent performance feedback aids NNSA sites in monitoring contractor performance and overall emergency management readiness.
- NA-40 reviews and analyzes emergency readiness assurance plans and uses the results to prepare a comprehensive annual report on DOE readiness assurance to the Secretary of Energy.

EA also identified several weaknesses, as summarized below:

- SC has adequate policies and procedures for oversight; however, line management does not always fully implement these processes, creating several significant oversight gaps, resulting in **one finding and several deficiencies** (see below). For example, the Program Secretarial Office (PSO) does not:
 - Perform assessments of FEs as required by PSO procedures.
 - Review critical reports, such as self-assessment and external assessment reports, to evaluate FE effectiveness and maintain awareness of emergency programs at SC laboratories.
 - Review emergency management resources to ensure effective implementation and maintenance of the emergency management programs, emergency response assets, and capabilities.
 - Review and analyze emergency readiness assurance plan submissions from SC laboratories.
 - Keep senior management informed of emergency management programs at SC laboratories.

- Implement effective training and qualification programs for personnel overseeing emergency management programs.
- NA-40 has not established a fully effective oversight program within NNSA that provides sufficiently detailed implementing protocols for executing required oversight functions and identifies lines of authority for oversight responsibilities that are shared with FEs.
- Although NA-40 executes some elements of a readiness assurance program, its program does not ensure that the emergency management program is consistently executed across the Department in accordance with directives, regulations, policies, and applicable laws.
- EM-3.114 does not have authority to ensure that FEs correct emergency management issues, so significant issues pertaining to FEs are not always addressed.
- None of the evaluated PSOs fully ensure that FEs conduct self-assessments of their emergency management programs annually as required by DOE Order 151.1D.

In summary, EM and NNSA have, with some exceptions, implemented adequate emergency management oversight programs that support program performance and continuous improvement efforts by the FEs, as required by DOE Orders 226.1B and 151.1D. However, SC's oversight of emergency management is not implemented in accordance with its policies and procedures to meet order requirements.

INDEPENDENT ASSESSMENT OF HEADQUARTERS LINE MANAGEMENT OVERSIGHT OF EMERGENCY MANAGEMENT PROGRAMS

1.0 INTRODUCTION

The U.S. Department of Energy (DOE) Office of Emergency Management Assessments, within the independent Office of Enterprise Assessments (EA), conducted an assessment of the effectiveness of DOE Headquarters Program Secretarial Office (PSO) oversight of field elements (FEs) and management and operating (M&O) contractors in managing emergency management programs at selected DOE and National Nuclear Security Administration (NNSA) sites. The assessment also evaluated the effectiveness of certain oversight roles implemented by the NNSA Office of Emergency Operations (NA-40) across DOE as the Office of Primary Interest for emergency management. This assessment was conducted from February to June 2022 in accordance with the *Plan for the Independent Assessment of Headquarters Line Management Oversight of Emergency Management Programs, February – June 2022*.

Emergency management oversight requirements are contained in DOE Order 151.1D, *Comprehensive Emergency Management System*, and DOE Order 226.1B, *Implementation of Department of Energy Oversight Policy*. DOE Order 151.1D establishes DOE's emergency management program and assigns responsibilities at the PSO and FE levels to ensure implementation of emergency management policy and requirements. DOE Order 226.1B provides requirements and direction for implementing DOE oversight policy. Specifically, DOE Order 226.1B requires PSOs to ensure that FEs perform effective oversight and place high priority on oversight of high consequence activities, assist FEs in implementing and improving documented oversight program plans and schedules through direction and feedback, and establish clear, unambiguous lines of authority and responsibility for oversight.

This assessment was conducted, in part, to address weaknesses in DOE line oversight of emergency management that have been identified by various independent reviewers and remain unaddressed. Since 2004, the DOE Office of the Inspector General (IG), the Defense Nuclear Facilities Safety Board (DNFSB), and EA (and predecessor organizations) have identified weaknesses in the implementation of emergency management requirements at DOE and NNSA sites. Weaknesses in implementing corrective actions and performing emergency management oversight were highlighted in two IG reports (in 2004 and 2011), DNFSB Recommendation 2014-1, *Emergency Preparedness and Response*, and multiple EA (and predecessor organizations) assessment reports. In particular, the 2011 IG *Audit Report on Improvements Needed in the Department's Emergency Preparedness and Continuity of Operations Planning* recommended that DOE strengthen the management review and oversight processes of emergency management. Similarly, DNFSB Recommendation 2014-1 determined that the most important root causes of multiple emergency management problems were inadequate implementation and revision of requirements and ineffective contractor and Federal verification and validation of readiness for responding to emergencies.

In 2015, DOE issued an implementation plan describing the Department's approach for addressing the performance concerns expressed by the DNFSB in Recommendation 2014-1. The DOE response stated, "Effective corrective actions systems require that the line management organization ensure proper oversight and closure with independent oversight included to verify the work has actually been performed. Utilizing existing program line oversight and independent oversight, DOE will ensure deficiencies are corrected in a timely manner." In 2017, the DNFSB issued a letter closing Recommendation 2014-1, citing closure because it determined that the DOE implementation plan would not adequately address the concerns raised in the recommendation. Correspondingly, improvements that would address the weaknesses identified by the DNFSB and other independent reviewers have not been attained, partly because the solutions require effective actions at multiple levels, including Headquarters line management of emergency management programs, allowing the weaknesses to persist.

2.0 METHODOLOGY

The DOE independent oversight program is described in and governed by DOE Order 227.1A, *Independent Oversight Program*, which is implemented through a comprehensive set of internal protocols, operating practices, assessment guides, and process guides. This report uses the terms “deficiencies, findings, and opportunities for improvement (OFIs),” as defined in the order.

As identified in the plan, this assessment evaluated the implementation of DOE Orders 151.1D and 226.1B requirements for DOE line management oversight of emergency management programs. EA used the following sections of CRAD EA-33-10, Rev. 0, *Federal Line Management Oversight of the Emergency Management Program*: section 4.1, Office of Emergency Operations, NNSA; section 4.2, PSOs; and section 4.3, FEs. The assessment was based on a sampling of data and is not intended to represent a full programmatic assessment of PSO oversight of site emergency management programs.

The Headquarters PSOs included in the assessment were the Office of Environmental Management (EM), NNSA, and Office of Science (SC). A sampling of FE oversight activities was evaluated to determine the effect that Headquarters line management has on the development and maintenance of emergency management programs under their jurisdictions. The FEs for EM sites were the Richland Operations Office, Carlsbad Field Office, and Portsmouth/Paducah Project Office. The FEs for NNSA sites were the Sandia Field Office and Nevada Field Office. The FEs for SC laboratories were the Argonne Site Office, Berkeley Site Office, and Oak Ridge National Laboratory Site Office.

EA reviewed key documents, such as PSO and FE plans, procedures, and processes for oversight, emergency readiness assurance plans (ERAPs), corrective actions, and other improvement initiatives. In addition, EA interviewed PSO and FE personnel to assess the depth and scope of the PSOs’ oversight of site emergency management-related processes. EA conducted interviews remotely and, for five of the evaluated sites, during onsite visits. EA also included previous assessments and lessons-learned reports in its overall analysis of results. Appendix A lists the members of the assessment teams, the Quality Review Board, and management responsible for independent oversight assessments.

There were no previous findings for follow-up addressed during this assessment.

3.0 RESULTS

Results sections 3.1 through 3.5 address Headquarters (and associated FE) line management oversight responsibilities for oversight policies and procedures; oversight implementation and assistance to FEs; conduct of resource assessments; program performance measures; and ensuring ERAPs. Results regarding NA-40’s oversight roles across DOE as the Office of Primary Interest are also included in section 3.5 on ensuring ERAPs and in sections 3.6 through 3.8 on the readiness assurance program, maintaining operational awareness, and the annual status report. Science does not concur with this report regarding the SC finding and three of the SC deficiencies. SC’s response memorandum is provided as Appendix B to this report in accordance with DOE Order 227.1A Change 1, *Independent Oversight Program*.

3.1 PSO Oversight Policies and Procedures

This portion of the assessment determined whether PSOs have established oversight programs to implement the requirements of DOE Orders 151.1D and 226.1B at Headquarters and FEs. This portion also assessed whether PSOs have adequately developed policies and guidelines governing oversight of emergency management programs by the FEs and the adequacy of procedures for implementation of oversight. Required FE actions include conducting self-assessments and assessments of M&O contractor programs, as well as approving key emergency management program documents, such as emergency

plans, hazards surveys, emergency planning hazards assessments, exercise plans, and certain corrective action plans.

3.1.1 Office of Environmental Management

The Office of Safeguards, Security and Emergency Preparedness (EM-3.114) has established effective oversight policies and procedures designed to implement the requirements of DOE Orders 151.1D and 226.1B at Headquarters and each of the FEs. EM's Standing Operating Policy and Procedure 17, *EM-3.114 Emergency Management Oversight*, is the governing procedure that provides a systematic approach to assist and provide emergency management oversight of the FEs. The procedure provides for periodic assessments of EM sites for effectiveness of performance and compliance with requirements. It also contains job aids that provide assessment concepts and philosophy, as well as specific approaches for planning, scheduling, and conducting assessments, including details on the risk-based approach used by EM-3.114. EM-3.114 maintains additional procedures, including a procedure pertaining to administration of a lessons-learned program.

Oversight policies and procedures established by two of the three evaluated EM FEs were adequate. However, one FE had generic oversight procedures applicable to all assessed functions but did not have a procedure specific to emergency management oversight describing the required assessments, contractor performance evaluation processes, and emergency management documents requiring approval. (See **OFI-EM-1**.) The absence of an oversight procedure specific to emergency management contributed to one FE not recognizing the need to conduct an annual self-assessment for the past three years or the need to review and approve the site's hazards survey document as required by DOE Order 151.1D. (See **Deficiency D-EM-1**.) Assessments by FEs are required to ensure that emergency management programs are effective in preparing responders to mitigate potential incidents and their consequences.

3.1.2 National Nuclear Security Administration

The NNSA Office of Emergency Operations (NA-40) has several oversight responsibilities, such as maintaining operational awareness of NNSA emergency management programs; performing periodic oversight assessments of NNSA FEs as part of the Chief of Defense Nuclear Safety (CDNS) biennial reviews; and implementing an NNSA contractor performance indicator program through a general framework of requirements and instructions.

Additional requirements specific to NNSA are contained in NNSA supplemental directives (SDs) that indicate how NNSA will implement a DOE directive. NNSA SD 226.1C, *NNSA Site Governance*, identifies emergency management as a high-risk functional area where responsibility for oversight is to be shared between the Headquarters functional organization (i.e., NA-40) and the FEs, but the SD does not contain implementing details. NA-40 has not established sufficiently detailed implementing protocols for executing required oversight functions and has not identified lines of authority and responsibility for oversight or how those responsibilities are shared with the FEs as required by DOE Order 226.1B. (See **Deficiency D-NNSA-1**.) The absence of implementing procedures and clearly established roles and responsibilities reduces the assurance that the emergency management oversight requirements will be systematically implemented by NA-40 and NNSA FEs.

The lack of a sufficiently detailed NA-40 emergency management oversight program has led to varying levels of FE oversight effectiveness as illustrated by the following examples:

- NA-40 does not ensure that FEs conduct self-assessments of their emergency management oversight programs annually or that the results of self-assessments are documented in the ERAP. (See **Deficiency D-NNSA-2**.) Consequently, NNSA FEs may be unprepared to respond to identified emergency incidents.

- NNSA SD 226.1C identifies emergency management as a high-risk functional area that is given higher priority and greater emphasis due to increased potential for mission impact. However, at one site, the NNSA FE procedure identifies emergency management as a low- to moderate-risk functional area that is not required to be formally assessed. (See **OFI-NNSA-1.**)
- One NNSA FE does not conduct formal assessments of the contractor's emergency management program, other than providing input three times a year on contractor performance in the Corporate Performance Evaluation Process (CPEP). The other NNSA FE provides triannual input as part of the CPEP reporting requirement and conducts annual assessments of the contractor's emergency management program in accordance with a five-year assessment schedule.
- The NNSA FEs use different sets of criteria. One FE uses criteria developed from the DOE CRAD Handbook, *Criteria Review and Approach Document: Performing Risk-Informed, Performance Based Assessments of U.S. Department of Energy Facility Emergency Management Programs*, as the basis for assessments. The other NNSA FE does not use formal objectives and criteria for assessments of the M&O contractor, resulting in a reduced scope and less objectivity for performing assessments. In the absence of a single, consistent set of objectives and evaluation criteria, NNSA will not have a consistent understanding of program performance across its FEs.

Both NNSA FEs use generic FE oversight procedures but do not have procedures specific to emergency management oversight that describe what emergency management documents staff are to approve, what assessments must be conducted, or how contractor performance will be measured. (See **OFI-NNSA-1.**)

3.1.3 Office of Science

SC has a longstanding oversight policy and procedure that forms the basis for emergency management oversight at SC laboratories and that, if implemented, would represent an adequate approach to satisfying the expectations of DOE Orders 151.1D and 226.1B. The Deputy Director for Field Operations (SC-4), which at the time was designated SC-3, provided appropriate expectations in a memorandum entitled, "Proper Federal Oversight," issued on March 18, 2013. Additionally, SC's *Oversight Model Basic Primer* provides an appropriate framework for program oversight. Finally, the Science Management System document, *Management System Description Safeguards, Security and Emergency Management* procedure requires a periodic assessment of emergency management programs at all levels within SC, provides adequate steps for assessing operational emergency core and hazardous material programs, and assigns appropriate roles, responsibilities, authorities, and accountabilities for emergency operations.

In 2014, SC implemented a contractor assurance system at all SC laboratories by adding a new clause to all SC contracts that contains ten key attributes for contractors to implement. This effort was undertaken to ensure that systems and controls "will be effective and efficient" and to "shift accountability/responsibility to the contractor." SC Headquarters cites the contractor assurance system as the reason it does not have to conduct emergency management oversight. However, as reliance on the contractor assurance system cannot replace the SC Federal oversight required by Departmental directives, SC Headquarters has not implemented its oversight policy and procedures at its FEs in recent years. The SC Headquarters Office of Safety and Security (SC-HQ) has responsibility for oversight of emergency management programs. The SC-HQ Coordinator for Continuity and Emergency Management is responsible for oversight of emergency management and continuity-of-operations programs at all SC laboratories. The coordinator is primarily engaged with continuity-of-operations activities, and therefore has insufficient time to execute emergency management program procedural requirements; the coordinator stated that they spend about 10-20% of their time on emergency management. (See **OFI-SC-1.**) The Director of SC-HQ views their role as one of coordination and not one of oversight, and therefore does not conduct appropriate oversight consistent with requirements in DOE Orders 151.1D and 226.1B. (See **Finding F-SC-1.**) Lack of SC-HQ oversight has resulted in unmet order requirements and inconsistent implementation of other requirements at the three assessed SC FEs. The following examples

consist of order requirements that were not met or were inconsistently implemented in a way that affected the effectiveness of oversight:

- At one SC laboratory, the required annual exercise was not performed from December 2017 to July 2021. No exemption was issued for fiscal year (FY) 2019; before the pandemic, the FE incorrectly authorized an emergency operations center activation to be credited as an FY 2020 exercise. This use of the emergency operations center activation was documented as an equivalency to an annual exercise, but that determination did not contain the opinion of NA-40 as the Office of Primary Interest or receive concurrence and final disposition from the PSO as required by DOE Order 151.1D. Furthermore, at the July 2021 full-participation exercise, FE personnel evaluated but did not participate in the responder role. (See **Deficiency D-SC-1.**) The annual exercise is the premier evaluation event for an emergency management program, and not conducting the exercise annually significantly diminishes a program's ability to ensure the health and safety of workers and the public.
- At one SC laboratory, the FE did not review and approve the corrective action plan from two different external assessments conducted during the assessed period, contrary to DOE Order 151.1D. (See **Deficiency D-SC-2.**) By not including the FE in the review process, the appropriateness of the solutions to the emergency management problems identified in the external assessments could not be ensured before publication.
- One SC FE conducts the required annual FE self-assessment of emergency management programs, another FE conducted a self-assessment for the first time as a result of this EA assessment, and the third FE does not conduct the self-assessment. Furthermore, one FE uses the *Management System Description Safeguards, Security and Emergency Management* procedure for lines of inquiry, while the other FE uses DOE Order 151.1D for lines of inquiry. The procedure-based self-assessment found no findings, deficiencies, or OFIs; however, FE personnel did not participate in the last annual exercise as required by the order, and the FE did not meet the procedural requirement for forwarding hazards surveys and emergency planning hazards assessments to SC-HQ. Additionally, the FE self-assessments were not documented in the site's annual ERAP, contrary to DOE Order 151.1D. (See **Deficiency D-SC-3.**) By not conducting annual self-assessments or identifying when order or procedure requirements are not met, confidence that the program is effectively implemented and the health and safety of workers and the public are being maintained is reduced.
- All three FEs had different levels of effectiveness in assessing the M&O contractor emergency management program: one conducts a periodic, formal assessment of the contractor's emergency management program; one participates as an evaluator in the contractor's annual assessment; and one has not conducted any assessments of the contractor's program. (See **OFI-SC-1** and **OFI-SC-2.**)

3.1.4 PSO Oversight Policies and Procedures Conclusions

This assessment found significant variability in the approach and effectiveness of oversight policies and procedures across the three evaluated program offices (and their FEs). EM-3.114 has established emergency management oversight policies, NA-40 needs additional implementation procedures, and SC has adequate policies and procedures; however, the policies and procedures at all three program offices are not implemented effectively. The results of this assessment provide further evidence that problems in the application of emergency management oversight and implementation of corrective actions for identified weaknesses continue. Senior Program Secretarial Office management is often unaware of recurring emergency management issues, and there is little evidence that FEs are held accountable for unaddressed findings. Consequently, while a framework exists for effective implementation of DOE Orders 151.1D and 226.1B requirements, emergency management oversight is not consistent across the Department.

EM-3.114 has established emergency management oversight policies and procedures designed to implement the requirements of DOE Orders 151.1D and 226.1B at Headquarters and each of the FEs. These policies and procedures provide a systematic approach to assist and provide emergency management oversight of the FEs. Two of the FEs have adequate emergency management oversight policies and procedures, but one FE does not have an oversight procedure specific to emergency management and, consequently, did not perform all required oversight duties.

NA-40 accomplishes some oversight activities focused on NNSA emergency management programs through a general framework of requirements and instructions but has not established oversight policies and procedures designed to implement the requirements of DOE Orders 151.1D and 226.1B. The lack of policy and procedural guidance for accomplishing effective oversight has led to inconsistent interpretation and implementation of oversight requirements by NNSA FEs, potentially impacting program effectiveness.

SC has established an adequate policy and procedure for complying with oversight requirements for emergency management programs at SC laboratories. However, SC does not implement many steps of the procedure, resulting in noncompliance with DOE Orders 226.1 and 151.1D and inconsistent implementation of PSO procedure requirements by the FEs. The SC personnel interviewed during this assessment stated that Headquarters line management of emergency management programs is largely unnecessary because of strong contractor assurance programs and that the PSO has little governance of site activities. As a result, rigorous program assessments by oversight staff often do not occur as required, and effective program improvements have not been attained.

3.2 Oversight Implementation and Assistance to Field Elements

This portion of the assessment determined whether Headquarters line management organizations have ensured that FEs perform effective oversight and have assisted FEs in implementing and improving documented oversight program plans and schedules through direction and feedback. Additionally, this portion evaluated whether Headquarters line management has established and maintains appropriate qualification standards for personnel with Headquarters and FE oversight responsibilities.

3.2.1 Office of Environmental Management

EM-3.114 conducts formal and effective assessments of FEs in accordance with its annual integrated assessment plan. In accordance with DOE Order 226.1B, EM-3.114 staff established a risk-based evaluation program that requires assessment of at least two high-hazard sites each year, and all four high-hazard sites every three years. EM-3.114 also assesses both medium-hazard sites at least once every three years and prioritizes and conducts assessments at the eight low-hazard EM sites as needed. In FY 2023, EM-3.114 plans to conduct programmatic and/or response assessments at three of the four high-hazard sites and two low-hazard sites. The assessments conducted over the three-year review period, as well as the proposed oversight schedule for FY 2023, comply with established EM-3.114 procedures.

EM-3.114 staff members discuss lessons learned with FEs at Emergency Management Issues Special Interest Group annual meetings and at quarterly Emergency Management Advisory Committee (EMAC) meetings. EM-3.114 also conducts annual self-assessments in accordance with procedures. Annual self-assessment reports produced by EM-3.114 during the review period were objective and appropriately critical of program effectiveness. The 18 assessment reports produced by EM-3.114 were comprehensive and appropriately critical of the FEs observed; however, in some cases, the FEs did not take subsequent actions to address the identified issues. (See **Deficiency D-EM-2.**) Unresolved findings could deter timely and appropriate actions for protecting workers and the public if an operational emergency occurs.

While EM-3.114 oversight of the FEs is compliant with requirements, three EM-3.114 assessment reports identified gaps in emergency management oversight conducted by FEs, including:

- Not notifying EM-3.114, in writing, of contract, ERAP, and emergency plan variances
- Not performing any oversight reviews of M&O contractor emergency management programs
- Not issuing evaluation reports from self-assessments, program reviews, or exercise evaluations
- Not submitting annual ERAPs to DOE Headquarters organizations by the due date.

EM-3.114 staff members reported that they have not seen oversight improvements at the EM sites with identified deficiencies over the last three years. Despite the observed lack of progress, EM-3.114 has not scheduled follow-up visits (in person or virtually) to assess whether FEs are addressing identified oversight problems. An exercise performance assessment is scheduled for FY 2023 at a high-hazard site where FE oversight problems were uncovered several years ago; however, at the time of this EA assessment, no review of previous programmatic assessment issues had been planned. (See **OFI-EM-2**.) EM-3.114 staff further stated that they ensure issues are reported to EM-3.1, Office of Safety, Security, and Quality Assurance. Oversight of FEs belongs to EM-3 (Office of Field Operations), but EM-3 does not ensure that field elements correct issues so that programs and systems are maintained in accordance with policy and requirements. (See **Deficiency D-EM-2**.) Although EM-3.114's annual year-end reports include the status of corrective actions for findings and deficiencies from previous external reviews, based on information provided by the FEs, EM-3.114 does not always evaluate the information to ensure that corrective actions for closures were appropriate and effective. The lack of evaluation may impact the readiness of the emergency management program and result in the inability to determine the cause of a problem and whether it is localized or indicative of a systemic problem. (See **OFI-EM-3**.)

At all three assessed FEs, most, but not all, of the DOE order requirements were met, including conducting or shadowing contractor assessments; reviewing and approving key documents, such as emergency management plans, emergency planning hazards assessments, emergency planning zones (EPZs), exercise plans, corrective action plans for external findings, and ERAPs; and establishing and communicating performance measures with contractors. Except for one FE's hazards survey document, FEs approved all required key documents, but only one of three FEs conducted adequate annual self-assessments. One FE did not conduct any self-assessments during the three-year review period, and a second FE conducted self-assessments during only two of the three reviewed years and did not have a self-assessment scheduled for FY 2023. (See **Deficiency D-EM-1**.) Assessments by FEs are needed to ensure that programs are properly prepared to respond to operational emergencies.

Standing Operating Policy and Procedure 20, *EM-3.114 Training*, establishes the training and qualification requirements for staff assigned to EM-3.114. The training program is adequate to provide for proper oversight. EM-3.114 staff have been fully compliant with training requirements for the past three years. Also, each of the assessed FEs have established technical qualification programs to ensure that Federal emergency management staff members are fully qualified to perform their assigned responsibilities. FE emergency management personnel at each of the three assessed sites are in the process of completing required training, but none of the staff are fully trained. (See **OFI-EM-4**.)

Although DOE Order 151.1D does not specify the frequency for programmatic assessments, two of the three reviewed FEs conduct annual assessments of contractor emergency programs using a formal CRAD developed by the site offices, which EA considers to be a **Best Practice**. EM verified that the third FE meets order requirements for assessing emergency programs by participating in contractor self-assessments in a shadow role. (See **OFI-EM-5**.) All three EM FEs included the results of their assessments in the annual ERAPs submitted to DOE Headquarters organizations.

3.2.2 National Nuclear Security Administration

NA-40 conducts assessments of NNSA FEs by participating in biennial reviews of nuclear safety

performance coordinated and directed by the CDNS. NA-40 has participated in six CDNS reviews of five FEs since 2017. In 2019, the CDNS and NA-40 converted the scheduled CDNS review at one of the NNSA sites in this assessment to an assist visit after the M&O contractor and the FE identified significant programmatic issues during the 2019 annual exercise. NA-40 assessed emergency preparedness during the CDNS reviews of the other NNSA site included in this assessment in 2018 and 2021.

NNSA SD 226.1-1B, *Headquarters Biennial Review of Nuclear Safety Performance*, establishes NNSA requirements, processes, and procedures for conducting biennial reviews under the direction of CDNS. NNSA SD 226.1-1B identifies a baseline scope of seven functional areas that must be included in each CDNS review, along with a flexible scope of 13 functional areas that may be included based on CDNS observation or concerns about the FE's performance since the last review. Emergency management is identified as a flexible-scope functional area, indicating that emergency management is not required to be included in each CDNS review. (See **OFI-NNSA-2.**)

NA-40 uses the biennial CDNS reviews as the primary formal oversight activity for evaluating FE implementation of emergency management requirements. As stated in NNSA SD 226.1-1B, CDNS reviews constitute a significant investment of resources, and the results are a contributing element of a systematic oversight strategy for NNSA Headquarters organizations. However, while NA-40 has routinely participated in CDNS biennial reviews for several years, the NNSA biennial reviews are not intended to be the sole component of any Headquarters organization's oversight activity. A biennial review of the NNSA Office of Defense Programs (NA-10) conducted in October 2007 by CDNS identified a management concern associated with the implementation of oversight requirements. The report stated that "NA-10 reliance on the CDNS biennial reviews as the primary formal activities for safety basis is inconsistent with the requirements imposed on DOE Headquarters line management in DOE Order 226.1A." (See **Deficiency D-NNSA-1.**) Standard Operating Procedure NA-40-42-SLO-2, *Site Liaison Officer (SLO) Program*, assigns the responsibility for conducting CDNS reviews of NNSA FEs to NA-40 SLOs and establishes the training and qualification requirements for staff assigned to the SLO program. SLOs are required to maintain NNSA technical qualification program requirements in General Technical Base Parts A and B and the technical qualification program requirement for emergency management as outlined in DOE-STD-1177-2004, *Emergency Management Functional Area Qualification Standard*. This qualification program is adequate for proper oversight. Recent staff turnover has resulted in a new cadre of SLOs, and the individuals assigned to the SLO program are in the process of completing the qualifications. These SLOs are new to the DOE emergency management system, so they have limited experience in executing the required oversight functions. Both FE emergency management program managers are qualified in accordance with the NNSA technical qualification program for emergency management as described above.

Both of the assessed NNSA FEs have met most, but not all, of the evaluated DOE order requirements related to emergency management oversight. FEs approved all required key documents, but only one of the two conducted the required annual self-assessments. One FE did not conduct a self-assessment during the three-year review period. NA-40 does not ensure that FEs conduct self-assessments of their emergency management programs annually or that the results of self-assessments are documented in the ERAP. (See **Deficiency D-NNSA-2.**) Consequently, NA-40 cannot ensure the readiness of the FE emergency management program to respond to emergency incidents. However, NA-40 maintained awareness of contractor performance and ensured that both FEs participated in the CPEP process three times per year. Additionally, one FE also conducts annual, formal assessments of the contractor emergency management program in accordance with a five-year schedule.

3.2.3 Office of Science

The Science Management System document *Management System Description Safeguards, Security and Emergency Management* requires "the evaluations of the Emergency Management Systems in SC, at all levels, **every three years** [emphasis in the original] as required by DOE Order 151.1, Chg. 1." Although

the SC-HQ triennial requirement was derived from DOE Order 151.1C (superseded by DOE Order 151.1D, which no longer specifies an assessment frequency), it remains in the SC procedure. Nevertheless, SC-HQ does not implement such assessments. (See **OFI-SC-2**.) Additionally, *Management System Description Safeguards, Security and Emergency Management, Exhibit 1* requires the FE emergency management program manager at each site to “coordinate with Headquarters to evaluate the annual facility exercises so that there is an opportunity for an external Departmental evaluation at least every 3 years.” Although this procedure requirement has also not been implemented until recently, SC has started scheduling external assessments of annual exercises at SC laboratories. The first external assessment of an exercise in many years is scheduled for FY 2022. At two of the three assessed SC FEs, no external assessment of the emergency management program has been conducted; therefore, there were no associated corrective action plans requiring FE approval. At the third FE, a DOE Inspector General report was completed in FY 2019, and an M&O-initiated external assessment was completed in FY 2020. Although both resulted in findings, neither the FE nor SC-HQ reviewed or approved the associated corrective action plans for oversight effectiveness, contrary to DOE Order 151.1D. (See **Deficiency D-SC-2**.) Not reviewing the corrective action plans lessens the FE oversight roles and removes an objective review of the plans for ensuring appropriate solutions to emergency management problems. Also, SC-HQ does not receive or review the FEs’ annual self-assessments to evaluate their effectiveness and to maintain awareness of emergency management programs at SC laboratories. By not implementing its emergency management oversight policies and procedures, SC-HQ is not providing effective oversight of its FEs. (See **Finding F-SC-1** and **OFI-SC-3**.)

The training and qualification program for SC Headquarters and FE oversight personnel is not preparing them for effectively overseeing the emergency management program. While DOE Order 226.1B requires PSOs to “establish and maintain appropriate qualification standards for personnel with Headquarters and FE oversight responsibilities,” SC-HQ is not meeting this requirement for its emergency management personnel. SC Headquarters and multiple FE-level emergency management personnel are recent hires to DOE who would benefit from a formal training and qualification program on the range of line oversight responsibilities addressed in DOE Order 151.1D. (See **Deficiency D-SC-4**.) The SC coordinator and the FE program managers were not aware of DOE Order 151.1D requirements and were not able to ensure effective oversight.

3.2.4 Oversight Implementation and Assistance to Field Elements Conclusions

The approach and effectiveness of oversight implementation and assistance to FEs vary significantly across the three evaluated program offices. EM-3.114 regularly conducts formal assessments using a formal and comprehensive EM-developed CRAD, while NA-40 uses a less stringent approach for assessments, and SC does not conduct any assessments or review FE reports.

EM-3.114 conducts formal assessments of FEs, shares lessons learned, and conducts required annual self-assessments. FEs approve key documents and corrective action plans for external findings. However, only one of the three EM FEs conducts the required annual self-assessments. Additionally, corrective action plans have not always been effective in resolving issues, and EM-3.114 has not conducted follow-up evaluations to measure progress.

NA-40 assesses FEs as part of the biennial CDNS reviews of nuclear safety performance and sometimes substitutes assist visits for the reviews. However, the NNSA SD governing CDNS reviews identifies emergency management as a flexible-scope functional area that is not required to be covered in each review. In addition, the CDNS CRADs do not ensure that all relevant areas are assessed, and one FE did not conduct a self-assessment as required.

SC-HQ does not perform assessments of its FEs as required by its procedures and does not receive or review critical reports, such as self-assessment and external assessment reports, to evaluate FE effectiveness and to maintain awareness of emergency management programs at SC laboratories. Additionally, SC-HQ

has not established an effective training and qualification program for personnel overseeing emergency management programs.

3.3 Ensuring Adequate Resources

This portion of the assessment determined whether PSOs have ensured that resources for sites, facilities, and activities are adequate for the effective implementation and maintenance of emergency management programs, emergency response assets, and capabilities. This portion assessed whether PSOs are aware of the risks and corresponding resource needs at the sites.

3.3.1 Office of Environmental Management

EM-3.114 maintains an awareness of the emergency management resources required for effective implementation and maintenance of emergency management programs, including emergency response assets and capabilities at EM sites, through periodic outreach by staff, quarterly EMAC meetings, EM-3.114 Safeguards, Security and Emergency Preparedness quarterly meetings, annual conferences, and assessments. During the three-year review period, EM assessed resources at all four high-risk sites, both medium-risk sites, and three of eight low-risk sites. Based on outreach and assessments combined, EM-3.114 concluded in its annual reports that an adequate emergency management framework and response capabilities are in place at EM sites to protect the workforce, public, and environment from an incident.

Resource assessments conducted by the three evaluated FEs appropriately assessed whether adequate resources were available for effective implementation and maintenance of emergency management programs. FEs reviewed resource adequacy as part of scheduled assessments, during contractor shadow assessments, and during drills and exercises. While EM-3.114 provided an example of how it helped one site with a resource issue by facilitating the procurement of a generator for the emergency operations center at a reduced cost, FEs said that, on occasion, when other important emergency management capabilities were identified, the requests for funding support were sometimes not resolved effectively. Although EM-3.114 was not informed of the issue prior to the EA Office of Emergency Management Assessments interviews, one FE indicated that it has been unsuccessful in attempts to ensure that the M&O contractor has an alternate emergency operations center that is adequately equipped with the communications equipment necessary for emergency response. Even if the FE had requested assistance from Headquarters, EM-3.114 has little opportunity to advocate for FEs regarding resource needs before budget decisions are made, and staff indicated that FEs are typically expected to resolve their own resource problems. (See **OFI-EM-6**.) Long-term unresolved resource issues diminish the state of readiness to respond to identified potential incidents.

3.3.2 National Nuclear Security Administration

NA-40 is effective in maintaining awareness of the emergency management resources required for effective implementation and maintenance of emergency management programs, emergency response assets, and capabilities at NNSA sites. NA-40's principal means for doing so include outreach by SLOs, quarterly EMAC meetings, and reviews of annual ERAP submissions. Annual ERAP submittals contain information on the status of emergency facilities and equipment, Federal and contractor staffing, and the emergency management operational budget for each reporting site. The two assessed NNSA FEs did not communicate specific budget or resource needs to NA-40 in the ERAPs submitted during the last three years.

The two assessed NNSA FEs indicated that they ensured the adequacy and availability of resources for effective implementation and maintenance of emergency management programs. FEs reviewed resource adequacy as part of scheduled assessments during triannual reviews of data reported in the Emergency Management Readiness Assurance Program (EMRAP), annual reviews of ERAP reports, and drills and exercises.

3.3.3 Office of Science

SC-HQ does not maintain awareness of the emergency management resources required for effective implementation and maintenance of emergency management programs, emergency response assets, and capabilities at SC laboratories as required by DOE Order 151.1D. The Coordinator for Continuity and Emergency Management did not know which SC laboratories are required to meet core emergency management program requirements and which are required to meet the hazardous material program requirements, a key factor in determining resource needs. (See **Finding F-SC-1** and **OFI-SC-4**.) Consequently, SC cannot ensure adequate resources for the effective implementation and maintenance of emergency management programs, emergency response assets, and capabilities.

All three assessed SC FEs were familiar with contractor emergency management programs and resource requirements.

3.3.4 Ensuring Adequate Resources Conclusions

Two of the three evaluated program offices maintain awareness of emergency resource needs for their emergency management programs, but one does not. EM-3.114 conducts resource assessments, and NA-40 maintains awareness of resource needs through regular outreach meetings. However, SC does not take any action to maintain awareness of resource needs.

EM-3.114 ensures that appropriate resources are available for effective implementation and maintenance of emergency management programs. However, EM-3.114 does not have budget authority to help sites address resource deficiencies. One FE has been unsuccessful in attempts to ensure that the alternate emergency operations center is located outside the EPZ or that the current alternate emergency operations center, which is located in the EPZ, is adequately equipped with the communications equipment necessary for emergency response.

NA-40 effectively maintains awareness of the emergency management resources required for the implementation and maintenance of emergency management programs, emergency response assets, and capabilities at DOE/NNSA sites.

SC-HQ does not maintain awareness of the emergency management resources required at SC laboratories. SC-HQ is unaware of which laboratories are required to meet core emergency management program requirements and which are required to meet hazardous material program requirements.

3.4 Program Performance Measures

This portion of the assessment determined whether PSOs verified that program performance measures at each organizational level include specific emergency management oversight criteria, areas of attention, and defined appraisal frequencies.

3.4.1 Office of Environmental Management

EM-3.114 establishes performance measures in the annual ERAP. To gauge program performance for FEs, EM adopted NNSA's ERAP template, which includes a series of questions or measures in major topical areas. EM-3.114 reviews the answers to its questions annually and produces an annual report designed to provide a picture of overall program health.

Emergency management program performance measures exist at each of the three assessed EM FEs. All three establish and communicate performance expectations and regularly communicate with M&O contractors regarding performance against established goals and objectives. Each of the three FEs

provided good examples of how they dealt with the unsatisfactory performance of M&O contractors to ensure improvement.

3.4.2 National Nuclear Security Administration

NA-40 defines emergency management program performance measures for NNSA M&O contractors in the EMRAP. The EMRAP consists of a set of comprehensive, standardized performance indicators, focusing on specific aspects of selected emergency management activities that are combined with data from other readiness assurance activities, such as assessments and exercises, to measure the health of an emergency management program. NA-40 divided the EMRAP performance measures into three sections: Programmatic Framework, Response Indicators, and Feedback and Improvement. NA-40, in collaboration with the NNSA laboratories, facilities, and FEs, developed and implemented EMRAP to provide senior leadership with a real-time snapshot of emergency management readiness across NNSA.

EMRAP establishes a common process for NNSA M&O contractors to perform periodic self-assessments of specific aspects of their emergency management program at a defined assessment frequency. FEs are required to provide data for reporting periods that align with the triannual CPEP reporting schedule due dates of January 31, May 31, and September 30. In December 2019, the NNSA Office of Acquisition Management approved the guidance for implementing EMRAP, and M&O contractors began participating in the program effective with the first reporting period in FY 2020. Both of the reviewed NNSA FEs have provided EMRAP data on schedule since the beginning of FY 2020. A CDNS review of NA-40 in 2021 identified a weakness associated with not identifying program performance measures for some organizational levels (e.g., FEs); NA-40 is addressing this issue.

3.4.3 Office of Science

SC evaluates the operational performance of each of its laboratories by means of a laboratory appraisal process that uses a common structure and scoring system across all ten laboratories, structured around eight performance goals. The laboratory appraisal process states as a goal for emergency management that the contractor shall provide an “efficient and effective emergency management system.” In this appraisal process, performance that meets SC’s expectations receives a grade of B+.

However, SC-HQ and the FEs have not defined an “efficient and effective emergency management system” and have not identified “meeting expectations” with respect to emergency management programs. All three FE emergency management program managers meet either monthly or quarterly with their M&O contractor to discuss contractor performance, but only one FE has specific emergency management performance metrics or criteria to measure performance against goals and assign a score. (See **OFI-SC-5** and **OFI-SC-6**.) One SC FE has specific metrics and criteria developed by the M&O contractor; the contractor holds itself accountable to these metrics, reviewing the metrics and criteria with the respective FE program manager periodically. The other two FEs score emergency management program performance in a manner that is either subjective in nature or simply requires compliance with DOE Order 151.1D requirements.

3.4.4 Program Performance Measures Conclusions

All three evaluated program offices have established emergency management program performance measures for sites. EM-3.114 and NA-40 effectively use performance measures to assess program health, but SC has not defined effective emergency management or developed a process to assess program health.

EM-3.114 establishes adequate performance measures using the annual ERAP and produces an annual report designed to provide a picture of overall program health. FEs establish performance measures and communicate expectations with M&O contractors appropriately.

NA-40 defines adequate emergency management program performance measures for NNSA M&O contractors in the EMRAP. NNSA FEs report EMRAP data for reporting periods that align with the triannual CPEP reporting schedule due dates of January 31, May 31, and September 30. Both NNSA FEs have been effective in providing EMRAP data on schedule since the beginning of FY 2020.

SC has established emergency management performance measures at all three assessed SC laboratories. These laboratories have the same broad goal of an “efficient and effective” emergency management system, but SC-HQ has not defined an efficient and effective emergency management system and has not developed a process or procedure to determine the performance score for emergency management programs.

3.5 Ensuring Emergency Readiness Assurance Plans

This portion of the assessment determined whether Headquarters PSOs have ensured that FEs prepare and submit a consolidated ERAP by November 30 of each year. Additionally, this portion evaluated whether the Headquarters PSO ensures that the Secretary of Energy, NA-40, and the field and site managers are kept fully and currently informed about matters affecting their responsibilities.

3.5.1 Office of Environmental Management

EM-3.114 ensures that each FE submits a consolidated ERAP annually and publishes an annual EM ERAP summary report, organized by emergency management program element. The reports for each of the three years in the assessed period adequately summarized the status of emergency management in EM. EM-3.114 publishes these summary reports and makes them available to EM sites. Although summary reports indicated that ERAPs for some sites were inadequate and that some ERAPs were submitted late, each of the three FEs submitted ERAPs to EM-3.114 that were prepared properly and submitted on time. However, because the Office of Field Operations (EM-3) and the Office of Safety, Security, and Quality Assurance (EM-3.1) are not briefed annually on open issues identified in external audits, they may be unaware of significant unresolved emergency management issues related to readiness assurance. (See **OFI-EM-7**.)

3.5.2 National Nuclear Security Administration

Both of the assessed NNSA FEs prepared and submitted ERAPs on schedule each of the last three years. NA-40 reviews ERAPs and uses the results to prepare the annual status report on DOE readiness assurance (for all DOE and NNSA sites) to the Secretary of Energy (see section 3.8). The *NA-40 Site Liaison Officer Program Charter* states that liaison officers are responsible for reviewing annual ERAPs with DOE/NNSA site and program office emergency management specialists for consistency with previous submissions and reporting areas of noteworthy performance or concern; however, NA-40 procedure NA-40-42-SLO-2 does not include this responsibility. (See **OFI-NNSA-3**.) The NNSA FE personnel interviewed during this assessment indicated that they have not received feedback from NA-40 on their ERAP submittals over the last three years.

Although FE managers did not approve all ERAP submittals in the past three years, NA-40 changed the submittal process in May 2022 to resolve this issue. The ERAP can be submitted in two ways: on paper using a template provided by NA-40, or online. The M&O contractor typically completes the ERAP online. Previously, the online submittal tool did not require the FE manager’s review and approval prior to submittal; however, the recent revision to the online submittal tool now requires FE manager review and approval prior to submittal to NA-40.

3.5.3 Office of Science

All three SC FEs prepared and submitted ERAPs on schedule each of the last three years. Two of the three FEs submitted their last two reports using both the online method and the paper template via a transmittal letter, while the third FE submitted its report using only the transmittal letter.

However, SC-HQ emergency management personnel rely on NA-40 to analyze and summarize the reports for the DOE annual status report on readiness assurance to the Secretary. This annual report generally addresses the status of emergency management at each of the sites but does not provide the level of detail required for effective program office oversight and management response. Also, as further detailed in section 3.8, the report has not been published every year. While ERAPs provide detailed information on emergency management programs at the laboratories, SC-HQ does not analyze or summarize them to keep SC senior management informed about emergency management matters. (See **Finding F-SC-1** and **OFI-SC-7**.) Additionally, because SC does not participate in the EMRAP process, this data is not available for SC laboratories. Not analyzing the ERAPs or summarizing them for senior SC management awareness significantly lessens senior management's ability to direct solutions to identified problems that could impact the health and safety of workers and the public.

3.5.4 Assess Emergency Readiness Assurance Plans Conclusions

All FEs reviewed during this assessment submitted ERAPs to their respective program offices on schedule. EM-3.114 and NA-40 review ERAPs and prepare an annual summary report, but SC does not. Of the three program offices, only EM-3.114 provides feedback on ERAP submissions back to the sites.

EM-3.114 ensures that each FE annually submits a consolidated ERAP and publishes an annual EM ERAP summary, organized by emergency management program element. However, EM-3.114 relies on EM-3 to ensure that resource issues are addressed. Additionally, EM-3 and EM-3.1 are not briefed annually on open issues identified in external audits, and EM-3.114 does not conduct annual follow-up reviews at high-hazard sites where weaknesses were previously identified.

NA-40 reviews ERAPs (for NNSA and all other DOE sites) and uses the results to prepare the annual report on DOE readiness assurance to the Secretary of Energy. Both assessed FEs have submitted ERAPs on schedule over the last three years. NA-40 SLOs play a key role in reviewing and providing feedback on ERAP submissions, but the procedure governing the SLO program does not include the responsibility of reviewing ERAPs and providing feedback to the submitting site.

All three SC laboratories submitted their three most recent annual ERAPs in a timely matter. However, SC does not review them or use the ERAP results to evaluate the status of its emergency management programs or to inform senior management.

3.6 Readiness Assurance Program

This portion of the assessment determined whether NA-40 has implemented, managed, and coordinated an effective DOE emergency management readiness assurance program. DOE Order 151.1D, app. A, par. 6.g, from which the assessment criteria for this section were derived, applies only to NA-40.

As part of its assigned role as the Department's Office of Primary Interest for emergency management program activities, NA-40 is responsible for implementing, managing, and coordinating a readiness assurance program to ensure that the DOE emergency management program is executed in accordance with directives, regulations, policies, and applicable laws. NNSA SD 450.2B, *Functions, Responsibilities, and Authorities (FRA) for Safety Management*, adequately contains the requirements specific to NA-40's responsibility for implementing safety management functions, including coordinating emergency management readiness assurance activities for NNSA sites, monitoring and evaluating

contractor performance for NA-40's emergency management and response programs, monitoring ERAP commitments, and coordinating emergency management readiness assurance activities with NNSA FE managers and NA-50. In addition, SD 450.2B requires NNSA managers with safety management functions, responsibilities, or authorities specified in the SD to develop implementing procedures for their assigned safety management functions.

DOE Order 151.1D outlines the framework for a readiness assurance program consisting of evaluations (assessments, exercises, and performance indicators), improvements (corrective actions and lessons learned), and development of an ERAP. NA-40 executes elements of a readiness assurance program, including periodic assessments of NNSA FEs under the direction of CDNS, maintenance of the EMRAP performance measures dashboard, and distribution of the annual ERAP template. However, NA-40 has not incorporated readiness assurance requirements into implementing procedures that outline an effective, formal, and structured readiness assurance program covering the full scope of DOE operations as required by DOE 151.1D. No program documents consist of evaluation and improvement programs, records of the readiness of the emergency management program based on emergency planning and preparedness activities, or the results of the readiness assurance program. The EMRAP performance measures dashboard is maintained only informally in accordance with guidance distributed in December 2019 via a memorandum to FE managers. Therefore, NA-40 has not implemented, managed, or coordinated a readiness assurance program to ensure that the DOE emergency management program is executed in accordance with directives, regulations, policies, and applicable laws. (See **Deficiency D-NNSA-3**.) The lack of a formal readiness assurance program diminishes the effectiveness of the program within DOE.

Readiness Assurance Program Conclusions

NA-40 executes some elements of a Departmental readiness assurance program, but has not implemented, managed, or coordinated an effective formal and structured readiness assurance program consisting of evaluation and improvement programs and documentation of the readiness of the emergency management program designed to ensure that the DOE emergency management program is executed in accordance with directives, regulations, policies, and applicable laws.

3.7 Maintaining Operational Awareness

This portion of the assessment determined whether NA-40 maintains awareness of the Department's emergency management program to ensure that activities are conducted in accordance with requirements. DOE Order 151.1D, app. A, par. 6, from which the assessment criteria for this section were derived, applies only to NA-40.

NA-40 maintains operational awareness of the Department's emergency management program through the SLO program. The SLO Charter and Standard Operating Procedure NA-40-42-SLO-2 provide a foundation and framework for a compliant program designed to maintain operational awareness, implement oversight responsibilities, and provide subject matter expertise to the Department's emergency management program. NA-40 has assigned primary and secondary liaison officers to each DOE and NNSA site; however, staff turnover and pandemic restrictions have limited the program's effectiveness in recent years. NA-40 staff indicated that while not all functions outlined in the SLO program have been performed recently, the program is now fully staffed and approaching full operations.

NA-40 maintains additional operational awareness of emergency management at NNSA sites through the CPEP, which is governed by NNSA Policy Letter NAP 540.3, *Corporate Performance Evaluation Process for Management and Operating Contractors*. The policy letter establishes a uniform, corporate process for evaluating NNSA M&O contractor performance. Emergency management is evaluated via Objective-5.8: *Deliver effective, efficient, and responsive site emergency management programs in support of the DOE/NNSA Emergency Management Enterprise*. NNSA sites provide CPEP input three times a year in accordance with the NNSA interim feedback reporting schedule due dates of January 31,

May 31, and September 30. FEs provide an evaluation of M&O contractor performance to NNSA Headquarters at the end of each triannual reporting period. NA-40 personnel evaluate the input related to Objective-5.8 and provide feedback and concurrence/non-concurrence. Both NNSA sites included in this assessment prepared and submitted CPEP input on schedule over the past three years, and the input was appropriately evaluated by NA-40 in accordance with program guidance.

Maintaining Operational Awareness Conclusions

NA-40 has developed adequate policies and procedures to maintain operational awareness of the DOE emergency management program. The SLO program provides the foundation and framework for maintaining operational awareness of emergency management at each DOE and NNSA site, and the CPEP process provides additional operational awareness of NNSA emergency management programs.

3.8 Annual Status Report

This portion of the assessment determined whether NA-40, in coordination with the Under Secretaries and PSOs, has provided an annual status report on Department readiness assurance through the NNSA Administrator to the Secretary of Energy. DOE Order 151.1D, app. A, par. 6.d, from which the assessment criteria for this section were derived, applies only to NA-40.

NA-40 prepared an annual report for FY 2020 based on information reported in the ERAP from each reporting site/facility. NA-40 included an explanation of EMRAP and provided FY 2020 EMRAP data for NNSA sites. EMRAP provides performance indicator data that reflects discrete aspects of program readiness. However, the value of the annual report as a comprehensive report on Departmental readiness assurance is limited by the fact that EMRAP data is available only for NNSA sites. (See **OFI-NNSA-4**)

NA-40 did not provide an annual report for FY 2018 or FY 2019. The 2021 NNSA Headquarters CDNS review addressed the missing annual reports as a Finding, EP-1/F, which states: “Contrary to DOE Order 151.1D, NA-40 has not provided annual status reports on Departmental readiness assurance to the Secretary of Energy since 2016, nor did they request an exemption to not provide the reports, contrary to DOE Order 251.1D.” NA-40 has completed the FY 2021 annual report and is preparing it for distribution.

Annual Status Report Conclusions

NA-40 prepared an annual status report on the DOE emergency management system in FY 2020 and is preparing the FY 2021 annual report for distribution. However, the value of the annual report as a comprehensive report on Departmental readiness assurance is limited by the fact that EMRAP data is available only for NNSA sites.

4.0 BEST PRACTICES

Best practices are safety-related practices, techniques, processes, or program attributes observed during an assessment that may merit consideration by other DOE and contractor organizations for implementation. The following best practice was identified as part of this assessment:

- Although DOE Order 151.1D does not specify the frequency for programmatic assessments, EM verified that all surveyed FEs conduct annual assessments of contractor emergency programs. Moreover, the Portsmouth/Paducah Project Office and Richland Operations Office conduct annual assessments of contractor emergency programs using a formal CRAD.

5.0 FINDINGS

Findings are deficiencies that warrant a high level of attention from management. If left uncorrected, findings could adversely affect the DOE mission, the environment, the safety or health of workers and the public, or national security. DOE line management and/or contractor organizations must develop and implement corrective action plans for findings. Cognizant DOE managers must use site- and program-specific issues management processes and systems developed in accordance with DOE Order 226.1, *Implementation of Department of Energy Oversight Policy*, to manage the corrective actions and track them to completion.

Finding F-SC-1: SC-HQ does not conduct oversight of field element management of emergency management programs at SC laboratories. (DOE Order 226.1B, par. 4.b.(3); DOE Order 226.1B, par. 5.b; and DOE Order 151.1D, app. A, par. 9)

6.0 DEFICIENCIES

Deficiencies are inadequacies in the implementation of an applicable requirement or standard. Deficiencies that did not meet the criteria for findings are listed below, with the expectation from DOE Order 227.1A for site managers to apply their local issues management processes for resolution.

Office of Environmental Management

Deficiency D-EM-1: EM does not ensure that field elements conduct self-assessments of their emergency management oversight programs annually or that the results of self-assessments are documented in the ERAP. (DOE Order 226.1B, par. 4.b.(3); DOE Order 151.1D, app. A, par. 9.a; and DOE Order 151.1D, app. A, par. 10.f.(1))

Deficiency D-EM-2: EM does not ensure that field elements correct issues so that programs and systems are maintained in accordance with policy and requirements. (DOE Order 151.1D, app. A, par. 9.a; and DOE Order 226.1B, par. 5.b.(2))

National Nuclear Security Administration

Deficiency D-NNSA-1: NNSA has not established an oversight program that implements the requirements of DOE Order 226.1B at Headquarters and field elements and has not established clear, unambiguous lines of authority and responsibility for oversight. (DOE Order 226.1B, par. 5.b.(1); DOE Order 226.1B, par. (3); and NNSA SD 226.1C, par. 8.d.(1))

Deficiency D-NNSA-2: NNSA does not ensure that field elements conduct self-assessments of their emergency management oversight programs annually or that the results of self-assessments are documented in the ERAP. (DOE Order 226.1B, par. 4.b.(3); DOE Order 151.1D, app. A, par. 9.a; and DOE Order 151.1D, app. A, par. 10.f.(1))

Deficiency D-NNSA-3: NA-40 has not implemented, managed, and coordinated a readiness assurance program to ensure that the DOE emergency management program is executed in accordance with directives, regulations, policies, and applicable laws. (DOE Order 151.1D, app. A, par. 6.g.)

Office of Science

Deficiency D-SC-1: SC does not ensure that field element personnel participate in a continuing emergency preparedness program of training, drills, and exercises. (DOE Order 226.1B, par. 4.b.(3); DOE Order 151.1D, app. A, par. 9.a; and DOE Order 151.1D, app. A, par. 10.n)

Deficiency D-SC-2: SC does not ensure that field elements review and approve corrective action plans for external findings identified during evaluations, assessments, drills, exercises, and actual emergencies. (DOE Order 226.1B, par. 4.b.(3); DOE Order 151.1D, app. A, par. 9.a; and DOE Order 151.1D, app. A, par. 10.f.(5))

Deficiency D-SC-3: SC does not ensure that field elements conduct self-assessments of their emergency management oversight programs annually, or that the results of self-assessments are documented in the ERAP. (DOE Order 226.1B, par. 4.b.(3); DOE Order 151.1D, app. A, par. 9.a; and DOE Order 151.1D, app. A, par. 10.f.(1))

Deficiency D-SC-4: SC has not established and maintained a training and qualification program for its Headquarters and field element personnel responsible for oversight of emergency management programs. (DOE Order 226.1B, par. 5.b.(3))

7.0 OPPORTUNITIES FOR IMPROVEMENT

EA identified 18 OFIs to assist cognizant managers in improving programs and operations. While OFIs may identify potential solutions to findings and deficiencies identified in assessment reports, they may also address other conditions observed during the assessment process. These OFIs are offered only as recommendations for line management consideration; they do not require formal resolution by management through a corrective action process and are not intended to be prescriptive or mandatory. Rather, they are suggestions that may assist site management in implementing best practices or provide potential solutions to issues identified during the assessment.

Office of Environmental Management

OFI-EM-1: Consider ensuring that field elements develop oversight procedures governing oversight of emergency management. These procedures should identify the emergency management documents to be formally approved by the field element, based on the requirements of DOE Order 151.1D, att. A, as well as what oversight assessments will be performed over time and how contractor performance will be assessed.

OFI-EM-2: Consider conducting annual, limited programmatic assessments for any high-hazard site where oversight gaps were recently identified, even if the review must be conducted virtually. Such assessments should also include a review of open findings from external reviews and effectiveness reviews for closed findings.

OFI-EM-3: Consider evaluating closure evidence for external findings, as provided by sites, to verify that corrective actions were appropriate and effective, and consider including a summary of the effectiveness of finding closures in the annual year-end report.

OFI-EM-4: Consider ensuring that field element staff complete the required emergency management technical qualification training programs.

OFI-EM-5: Consider having field elements develop a CRAD for assessments of the emergency management program and ensure that assessments of all DOE emergency management program elements are conducted periodically.

OFI-EM-6: Consider conducting an annual presentation to EM-3 and EM-3.1 on emergency management resource needs across EM sites to ensure visibility of resource gaps.

OFI-EM-7: Consider conducting an annual presentation to EM-3 and EM-3.1 on the status of emergency preparedness across EM sites to ensure visibility of emergency management performance and gaps in required capabilities.

National Nuclear Security Administration

OFI-NNSA-1: Consider ensuring that field elements develop oversight procedures governing oversight of emergency management. These procedures should identify the emergency management documents to be formally approved by the field element, based on the requirements of DOE Order 151.1D, app. A, as well as what oversight assessments are required over time and how contractor performance will be assessed.

OFI-NNSA-2: Consider working with the Chief of Defense Nuclear Safety Division (NA-ESH-21) to ensure that emergency preparedness is included in each CDNS review.

OFI-NNSA-3: Consider revising procedure NA-40-42-SLO-2 to ensure that it contains all the responsibilities in the SLO charter and establish a mechanism for providing feedback to DOE/NNSA site and field element emergency management specialists on the annual ERAP submittal.

OFI-NNSA-4: Consider working with other PSOs to expand the EMRAP program so that it is comprehensive and covers all sites and field elements.

Office of Science

OFI-SC-1: Consider conducting a job analysis of SC positions to determine the duties and responsibilities required for proper oversight of emergency management programs at SC laboratories. Allocate additional resources, as appropriate, to ensure that proper oversight is conducted consistent with the expectations of DOE Orders 151.1D and 226.1B.

OFI-SC-2: Consider updating SC procedures for assessments of emergency management programs to prioritize assessments of sites based on risk, document the reports that SC laboratories are required to submit to SC-HQ, and establish a schedule for site assessments consistent with the expectations of DOE Order 151.1D.

OFI-SC-3: Consider benchmarking effective PSO processes for oversight of emergency management programs at EM-3.114 and NNSA and coordinating more closely with NA-40 for receiving required reports.

OFI-SC-4: Consider coordinating with NA-40 on categorizing DOE SC laboratories based on their hazards (Tier I – high risk; Tier II – medium risk; Tier III – low risk) to help prioritize an assessment schedule (see OFI-SC-2) for each of the sites and summarize the emergency program levels (core or hazardous material) at each site.

OFI-SC-5: Consider ensuring that field elements formally document the discussions and results of periodic emergency management performance review meetings in minutes and formal records of the performance meetings.

OFI-SC-6: Consider ensuring that field elements develop a procedure establishing the emergency management performance measure criteria and the process for determining the contractor's performance score specific to emergency management.

OFI-SC-7: Consider collaborating with NA-40 to determine how to track and monitor ERAP submissions from all the DOE SC laboratories and to summarize them in one consolidated report that can be briefed to SC senior management.

Appendix A Supplemental Information

Dates of Assessment

February – June 2022. Field element assessment activities:

- April 12, 2022 – Berkeley Site Office
- April 12-13, 2022 – Richland Operations Office
- April 19, 2022 – Oak Ridge National Laboratory Site Office
- May 9, 2022 – Argonne Site Office
- May 10-11, 2022 – Portsmouth/Paducah Project Office
- Carlsbad Field Office, Sandia Field Office, and Nevada Field Office assessment activities conducted remotely.

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William F. West, Deputy Director, Office of Enterprise Assessments

Kevin G. Kilp, Director, Office of Environment, Safety and Health Assessments

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Appendix B
Office of Science Response Memorandum

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Department of Energy
Office of Science
Washington, DC 20585

February 9, 2023

MEMORANDUM FOR JOHN DUPUY

DIRECTOR

OFFICE OF ENTERPRISE ASSESSMENTS

FROM:

JUSTON K. FONTAINE

A handwritten signature in blue ink, reading "Juston K. Fontaine", is placed over the printed name.

DEPUTY DIRECTOR FOR FIELD OPERATIONS
OFFICE OF SCIENCE

SUBJECT:

Response to the Office of Enterprise Assessments Draft Report
*Independent Assessment of Headquarters Line Management Oversight
of Emergency Management Programs*

Thank you for the opportunity to review and comment on the Office of Enterprise Assessments Draft Report, *Independent Assessment of Headquarters Line Management Oversight of Emergency Management Programs*. The Office of Science (SC) has reviewed the draft report and concurs with specific Opportunities for Improvement (OFI) related to the coordination of document submissions and sharing of lessons learned between DOE Program Offices. However, previous comment resolution efforts have not achieved a satisfactory level of agreement on a number of issues, most notably on the Finding and Deficiencies. SC does not concur with the Finding and three of the identified Deficiencies in the report.

The draft report cites requirements in a subjective manner, making conclusions without taking into account the full language of a referenced requirement or adding opinion on the details of implementation. In several instances, there is a reliance on opinion-based statements that are viewed by SC as inaccurate. While reviewers can have an opinion on a preferred approach or best practice and SC will certainly consider alternative approaches, it is not the basis for a finding or deficiency.

There are always opportunities for improvement in SC line management oversight. However, statements in the draft report that “confidence that the program is effectively implemented, and the health and safety of workers and the public are being maintained is reduced” have no basis in fact and are contrary to recent experience, including the remarkable data point that SC led 10 national laboratories through 3 years of a pandemic with minimal impacts to the workforce and mission. In this respect, the review did not consider or analyze performance aspects of emergency management, including response to emergencies or upset conditions, yet concludes that safety is reduced and oversight is not effective. The team was provided a description of the SC oversight model and approach but rejected that approach as not consistent with the description in cited requirements. The report’s assertions do not align with DOE’s approach that programs and line managers determine the appropriate methodology for implementing oversight.

The attachment to this memorandum provides a management response on the proposed Finding and Deficiencies in the report.

If you have any questions regarding this response, please contact me at XXX-XXX-XXXX.

Attachment

Office of Science Response to Draft Report on *Independent Assessment of Headquarters Line Management Oversight of Emergency Management Programs*

Finding F-SC-1: SC-HQ does not conduct oversight of field element management of emergency management programs at SC laboratories. (DOE Order 226.1B, par. 4.b.(3); DOE Order 226.1B, par. 5.b; and DOE Order 151.1D, app. A, par. 9)

Management Response: Non-Concur. This finding represents a lack of understanding of SC oversight and the Contractor Assurance System (CAS) without discussion with the appropriate personnel responsible for line management of emergency management responsibilities. The report references documents and information that were provided as background which were taken as foundational implementing procedures and based on that the review concluded that SC is not meeting the requirements specified in these documents (example March 2013 McBrearty Memorandum). SC uses the Science Management System (SCMS) and local site office procedures as the foundational implementing procedures. The instances identified in this report of SC do not lead to a conclusion that there is not appropriate oversight as the applied oversight model was not assessed.

DOE O 226.1B offers each Program Office, including SC, the flexibility to determine the level of oversight needed for their staff. The requirements in DOE O 226.1B, para 4.b.(3), and para 5.b describing Program Secretarial Officer (PSO) responsibilities do not specify a how the PSO needs to accomplish this. Among other factors, SC performs this through routine engagement between the Deputy Director for Field Operations and Site Office Managers. The EA finding is based on a subjective interpretation on the intent of these requirements.

Additionally, the report implied that the SC-41 Director stated that CAS is why SC Headquarters does not need to conduct oversight. According to the Director, this is a false assertion and should be removed from the report. Each SC Management and Operating contractor is required by their respective contracts to perform line management oversight according to a defined DOE approved CAS system covering the full scope of laboratory operations. The CAS system must provide reasonable assurance to that the laboratory system of management controls, when properly implemented, provides an effective and efficient means of meeting all applicable requirements while accomplishing assigned missions. One of the tenants of determining appropriate federal oversight is the CAS system. Importantly however, this is not the only determining factor of federal oversight. Other factors that influence the federal oversight model include observation of actual contractor performance and lessons learned from other parts of the organization.

Deficiency D-SC-1: SC does not ensure that field element personnel participate in a continuing emergency preparedness program of training, drills, and exercises. (DOE Order 226.1B, par. 4.b.(3); DOE Order 151.1D, app. A, par. 9.a; and DOE Order 151.1D, app. A, par. 10.n)

Management Response: Non-concur. The one cited example related to not receiving appropriate PSO exemptions to DOE O 151.1D for an annual exercise is valid and SC will review our procedures and processes to ensure corrective actions are in place. However, based on this singular cited example, the report goes further to make an inaccurate overarching statement that SC does not ensure that field element personnel participate in a continuing emergency preparedness program of training, drills, and exercises. Additionally, the report references field elements not participating, as a responder, in the 2021 annual exercise. It states “the annual exercise is the premier evaluation event for an emergency management program...”. However, the annual corporate level exercise is not the only way that site staff can meet the requirements. Our site office staff regularly participate in local emergency management exercises and real-life events, which meets the requirements of DOE O 151.1D. The cited basis for the deficiency represents another subjective expectation beyond the order or as to how a requirement could be implemented or is implemented in other programs.

Deficiency D-SC-2: SC does not ensure that field elements review and approve corrective action plans for external findings identified during evaluations, assessments, drills, exercises, and actual emergencies. (DOE Order 226.1B, par. 4.b.(3); DOE Order 151.1D, app. A, par. 9.a; and DOE Order 151.1D, app. A, par. 10.f.(5))

Management Response: Non-Concur. During factual accuracy, the two “external assessments” were identified by the SC site office as self-assessments that did not require the level of approval cited in the report.

Deficiency D-SC-3: SC does not ensure that field elements conduct self-assessments of their emergency management oversight programs annually, or that the results of self-assessments are documented in the ERAP. (DOE Order 226.1B, par. 4.b.(3); DOE Order 151.1D, app. A, par. 9.a; and DOE Order 151.1D, app. A, par. 10.f.(1))

Management Response: Concur. At those sites where applicable DOE O 151.1D requirements are included, SC will review current practices related to self-assessments and make appropriate adjustments.

Deficiency D-SC-4: SC has not established and maintained a training and qualification program for its Headquarters and field element personnel responsible for oversight of emergency management programs. (DOE Order 226.1B, par. 5.b.(3))

Management Response: Non-concur. DOE O 226.1B is an overarching order addressing non- functional area specific requirements for establishing an oversight program and processes. The requirement cited in DOE O 226.1B is to “establish and maintain appropriate qualification standards for personnel...”. It does not state

that this needs to be a formalized training or qualification program; just that the staff needs to be appropriately trained. SC has established oversight responsibilities for its staff in SCMS procedures, *Quality Assurance and Oversight*. In the SCMS procedures there are expectations for federal staff on how to implement the requirements of DOE O 226.1B, including among other aspects, assessments and operational awareness.